Abstract

Title of the thesis: Energy expenditure in ski mountaineering, depends on the carrying or pulling loads.

Objectives: The aim of the study was to determine energy expenditure when compared skialpinism carrying or pulling loads.

Methods: The study was attended by 9 men at an average age of 23.22 ± 3, who had previously had a skialpinist ski experience. It was an experiment. The amount of energy output was measured by indirect calorimetry, based on inhaled oxygen (O2) and exhaled carbon dioxide (CO2). The MetaMax 3B instrument was used to analyze inhaled and exhaled gases. Testing took place on a plane where everybody pulled 6-minute 15kg sleigh and then carried a 6-minute 15kg backpack at a speed of 4.5 km / h.

Results: In 8 of the 9 tested, there was less energy expenditure when pulling the load on sleds than carrying it in the backpack. In 5 of the 9 tested, the difference between pulling and carrying was greater than the average difference of 4.57 kJ / min. For the three tested, the minimum differences between sleighs and backpack were minimal. One tested had a higher energy expenditure when pulling the load than when carrying it, but the difference was minimal.

Key words: Energy demand, Ski-mountaineering, Carrying the burden